



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/024,716

12/21/2001

Chang-Hyung Cho

1293.1291

5906

21171

7590

10/19/2006

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

ZHAO, DAQUAN

ART UNIT

PAPER NUMBER

2621

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,716

Applicant(s)

CHO, CHANG-HYUNG

Examiner

Daquan Zhao

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7, 10, 11, 13-22, 24-29, 31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-7, 10-11, 13-22, 24-29, 31, 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/22/2006; 08/25/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed September 19, 2006, have been fully considered but they are not persuasive.

In pages 8-9, applicant argues that Yogeshwar et al clearly discloses "multiples encoding formats" but fails to disclose "wherein, the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal when recording the A/V signal to the storage medium."

In response, the examiner respectfully disagrees. Paragraph [0020] in Yogeshwar et al recite "captured data content is catalogued and indexed at or subsequent to the creation of an IAF file that includes the archived, e.g., encoded, information." The IAF includes a family of audio-video digital based on public standards, e.g., MPEG (MPEG-1, MPEG-2, MPEG-4, etc.) JPEG, DV, etc. For each encoding format multiple encoding profiles and/or levels may be supported with different profiles and/or levels may be supported with different profiles/levels corresponding to different image and/or audio file quality levels." It is clear that for the MPEG encoding format, there are multiple encoding levels. The "the encoding levels" in MPEG format is the "compression ratio" since the encoding levels in MPEG rendering the rate of data reduction, and the rate of data reduction decides the quality levels of the audio and video data. Yogeshwar et al catalogued the captured A/V content, and encoded the A/V content in different encoding level because Yogeshwar et al intends to obtain different image quality for different image. It would have been for one ordinary in art at the time

the invention was made to compress the A/V signal base on the category item of the A/V signal to achieve different image quality for different image.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 10, 11, 13, 16, 17, 18, 19, 20, 21, 22, 26, 27, 28, 29, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corey et al (U.S. 5,703,655) and Yogeshwar et al (U.S. 2004/0096110 A1).

For claim 1, Corey et al teach Corey et al disclose a method of recording an audio/video (AN) signal, comprising:

- Selecting a category item for the A/V signal (e.g. abstract, column 10, lines 5-18);
- Storing category information about the A/V signal, the category information including the category item (e.g. Figure 1, closed caption storage, 72, column 4, lines 31-34); and

Recording the A/V signal to a storage medium, which is compressed at a compression ratio (e.g. Figure 1, Video/Audio storage, 40, column 3, lines 52-57, and

figure 1, compression/decompression module 36). However, Corey et al fail to teach determining a compression ratio for the A/V signal according to the category item selected for the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claims 2 and 20, Corey et al disclose the category information (close caption data) is stored in a memory (closed caption storage 72, see claim 1 above) provided separately from the storage medium (Video/Audio storage 40, see claim 1 above).

For claims 3 and 21, Corey et al specify the category information is stored in the storage medium together with the A/V signal (column 4, line 36-38).

For claim 4, Corey et al disclose the category item selecting, comprises:

- Extracting feature information in which a category of the AN signal is seized (e.g. abstract, column 4, lines 1-4);
- Comparing the feature information with a predetermined category list (e.g. column 10, lines 5-18, predetermined category list: movies, sports, entertainment, national news, and local news); and

Selecting the category item for the A/V signal based on a result of the comparison (e.g. column 10, lines 5-18).

Art Unit: 2621

For claims 10 and 28, Corey et al teach displaying, when a user inputs a category item to be searched (e.g. column 4, lines 39-56, user input query relating to one or more desired video segments) for through a graphic user interface (e.g. column 4, lines 39-56, system has to have a GUI to for user to enter query and review search result through monitor 84), a list of the one or more A/V signals falling under the category item among the one or more A/V signals in the storage medium (displaying a query satisfying video segment (s), column 4, lines 39-56); and searching when the A/V signal to be searched for is selected from the displayed list of one or more A/V signals (displaying a query satisfying video segment (s), column 4, lines 39-56), the storage medium for the selected A/V signal (e.g. column 4, lines 39-56, and figure 1, closed caption storage). Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claim 11, Corey et al teach an apparatus for recording an audio/video (A/V) signal, comprising:

Art Unit: 2621

- A first storage medium storing one or more A/V signals (e.g. Figure 1, Video/Audio storage, 40, column 3, line 52-57);
- A demultiplexing processor demultiplexing one of the input A/V signals, extracting feature information in which a category of the input A/V signal is seized, and transmitting the input A/V signal to the first storage medium (e.g. Abstract, figure 1, Receiver Tuner 24, column 3, line 52-67, and column 4, lines 1-12);
- A controller selecting and storing a category item for the input A/V signal based on the feature information provided from the demultiplexing processor and controlling the demultiplexing processor to record the input A/V signal to the first storage medium (e.g. figure 1, control module 60, video/audio storage 40, column 4, lines 13-38); and

A second storage medium storing category information including the category item (e.g. figure 1, closed caption storage, 72). Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and

Art Unit: 2621

end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claim 13, Corey et al disclose the feature information extracted by the demultiplexing processor is system information (SI) contained in the input A/V signal, or additional information received together with the input A/V signal (e.g. Abstract, figure 1, Receiver Tuner 24, column 4, lines 1-12, addition information: closed caption data).

For claim 16, Corey et al disclose the additional information is used when the input A/V signal is an analog signal (column 3, line 53-55, signal coming in is digitized. Therefore, the A/V signal must be analog signal).

For claim 17, Corey et al disclose the additional information received together with the input signal, is received through the same channel or a different channel than the input A/V signal (Figure 1, baseband video 32, 48, column 3, lines 2-54, column 5, lines 1-4).

For claim 19, Corey et al disclose an apparatus for recording an audio/video (A/V) signal to a storage medium, comprising:

- A selecting unit selecting a category item for the A/V signal (e.g. figure 1, Receiver Tuner 24);
- A storing unit storing category information about the A/V signal, the category information including the category item (e.g. figure 1, closed caption storage); and
- A recording unit recording the A/V signal to the storage medium (e.g. figure 1, video/audio storage, 40).

Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claim 18, Corey et al disclose an apparatus for searching a first storage medium, which stores one or more audio/video (A/V) signals, for one of the A/V signals, comprising:

- An information input unit inputting information pertaining to a request of searching for the A/V signal stored in the first storage medium (Figure 1, user input device, 76, e.g. column 4, lines 39-48);
- A second storage medium storing category information including a category list of the one or more A/V signals stored in the first storage medium (e.g. figure 1, closed caption storage 72, column 2, line 10-20);
- A display unit displaying the category list (e.g. Figure 1, monitor, 84, Figure 5A, programming Category, 520); and

Art Unit: 2621

- A controller reading the category list from the second storage medium and controlling the category list to be displayed on the display unit when the search request information is received from the information input unit, and when the A/V signal falling under a particular category item is selected from the displayed category list through the information input unit, reading the selected A/V signal from the first storage medium (e.g. figure 5B, step 524, and step 532, column 7, lines 41-49, control module 60 and column 10 lines 13-18, and lines 65-67).
- Wherein the category information comprises a name of a program and a data and time when the program is received (e.g. figure 7, #Ch 9 news, 5-6 PM, 9-2-94, column 5, lines 31-57, also figure 12A).

For claim 22, Corey et al disclose a selective unit comprises: an extracting unit extracting feature information in which a category of the A/V signal is seized (e.g. Abstract, figure 1, Receiver Tuner 24, column 3, line 52-67, and column 4, lines 1-12); and a comparing unit comparing the feature information with a predetermined category list, wherein the selecting unit selects the category item for the A/V signal based on a result of the comparison (Figure 12A and 12B, column 6, line 54-67, "the name of the video program", and column 10, lines 5-18).

For claim 26, Corey et al disclose a method of searching a storage medium, which stores one or more audio/video (A/V) signals, for one of the A/V signals, comprising:

- Displaying, when a search for the A/V signal is requested, a category list of the one or more A/V signals stored in the storage medium (e.g. figure 5A, step 520, column 9, lines 53-55, and column 10, lines 11-28);
- Displaying, when a category item to be searched for is selected from the displayed category list, a list of the A/V signals falling under the category item (e.g. figure 5B, step 524, column 10, lines 11-28); and
- Reading, when the A/V signal is selected from the list of A/V signals, the selected A/V signal from the storage medium and displaying the selected A/V signal (e.g. figure 5B, step 532, column 10, lines 65-67).

Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to

Art Unit: 2621

optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claim 27, Corey et al disclose a method of searching a storage medium, which stores one or more audio/video (A/V) signals, for one of the A/V signals, comprising:

- Displaying, when a search for the A/V signal is requested, a category item for at least one of the A/V signals stored in the storage medium and a list of at least one of the A/V signals falling under the category item (e.g. figure 5A, step 520, figure 5B, step 524, column 10, lines 11-28); and
- Searching, when the A/V signal to be searched for is selected from the displayed category item and A/V signal list, the storage medium for the selected A/V signal (column 4, lines 39-48 and column 10, lines 11-18).

Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

For claims 29 and 31, Corey et al disclose a method and an apparatus comprising:

- Extracting a category item from an audio/video (A/V) signal to be recorded to a storage medium, storing the extracted category item (e.g. Abstract, figure 1, Receiver Tuner 24, closed Caption Storage 72, column 3, line 52-67, and column 4, lines 1-12); and
- Searching for the A/V signal using the category item (e.g. figure 2, column 7, line 41-45).

Corey et al fail to teach the A/V signal is compressed at a compression ratio determined based on the category item of the A/V signal. Yogeshwar et al teach determining a compression ratio for the A/V signal and the category item selected for the A/V signal (e.g. paragraph [0020], and [0023]). It would have been obvious for one ordinary skill in the art at the time the invention was made to compress the A/V signal at a compression ration according to the category item selected for the A/V signal to optimize a tradeoff between storage constraints and end use quality requirements and to use storage space efficiently (Yogeshwar et al, paragraph [0024], [0025]).

Claims 6, 7, 24 and 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Corey et al (US. 5,703,655) and Yogeshwar et al (US 2004/0096110 A1), as applied to claims 1-4, 10, 11, 13, 16, 17, 19, 20, 21, 22, 26, 27, 28, 29, 31 above, further in view of Jain et al (U.S. 6,360,234).

See the teaching of Corey et al and Yogeshwar et al above.

For Claims 6, 7, 24 and 25, Corey et al disclose the A/V signal can be categorized into different categories (column 10, lines 5-18). However, Corey et al and Yogeshwar et al fail to disclose any user interaction for adding and categorizing the A/V signal. Jain et al teach the user interaction for adding and categorizing the A/V signal (e.g. abstract, column 6, line 48-67). It would be beneficial for user to define and add category for the A/V signal, so user would have known the category of the A/V signal well. Therefore, it would have been obvious for one ordinary skill in the art at the time the invention was made to modify teaching of Corey et al and Yogeshwar et al with the teaching of Jain et al to assist user quickly and efficiently retrieve the video in the storage medium.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corey et al (US 5,703,655) and Yogeshwar et al (US 2004/0096110 A1), as applied to claims 1-4, 10, 11, 13, 16, 17, 19, 20, 21, 22, 26, 27, 28, 29, 31 above, and further in view of Thomas et al (US 6,847,395 B2).

See the teaching of Corey et al and Yogeshwar et al above

For claims 14 and 15, Corey et al and Yogeshwar et al fail to disclose the System information for digital broadcast. Thomas et al disclose system information (SI), wherein the SI is used when the A/V signal is a digital signal (e.g. abstract), and the SI comprises extended text table information, extended channel name descriptor information, and network text table information provided from a Program and System Information Protocol (PSIP) or Out-Of-Band System Information (OOBSI) (e.g. column 6, lines 57-67, column 7, lines 1-6, network Information Table, Extended Text Table, and column 17, line 22-39, Virtual Channel Table). It would have been obvious for one ordinary skill in the art at the time the invention was made to use the system information disclosed by Thomas et al in the system disclosed by Corey et al and Yogeshwar et al for the same reasons disclosed by Thomas et al, which are allowing users to quickly navigate through the data (Thomas et al, column 6, lines 63-66), giving a good deal of descriptive information about the transport stream, and giving the start time, duration, title, content advisory rating about the A/V signal (Thomas et al, column 17, line 26).

Art Unit: 2621

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corey et al (US, 5,703,655) and Yogeshwar et al (US 2004/0096110 A1) as applied to claims 1-4, 10, 11, 13, 16, 17, 18, 19, 20, 21, 22, 26, 27, 28, 29, 31 above, and further in view of Strubbe et al (US 5,483,278).

See the teaching of Corey et al and Yogeshwar et al above.

For claim 33, Corey et al and Yogeshwar et al fail to teach the category item comprises any one of drama and documentary. Strubbe et al teach the category item comprises any one of drama and documentary (e.g. column 4, lines 30-39). It would have been obvious for one ordinary skill in the art at the time the invention was made to incorporate the teaching of Strubbe et al into the teaching of Yogeshwar et al and Corey et al to provide user variety choice of entertainment.

Applicant's amendment necessitated the new ground(s) of rejection presented in this office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEG § 706.07 (a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136 (a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing data of this action. In the event a first reply is filed within TWO MONTHS of the mailing data of this action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period. Then the shortened statutory period will expire on the data the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing data of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the data of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daquan Zhao whose telephone number is (571) 270-1119. The examiner can normally be reached on M-Fri. 7:30 -5, alt Fri. off.

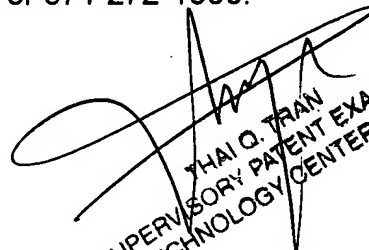
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tran Thai Q, can be reached on (571)272-7382. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daquan Zhao



THAI Q. TRAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Tran Thai Q
Supervisory Patent Examiner